DATE: 04/03/2001

TIME: 20:20:02

Input Set : A:\Pto.amc Output Set: N:\CRF3\04032001\I803719.raw 4 <110> APPLICANT: Williams, Lewis T. Escobedo, Jaime Innis, Michael A. 6 Garcia, Pablo Dominiguez 7 Sudduth-Klinger, Julie 9 Reinhard, Christoph Giese, Klaus 10 Randazzo, Filippo 11 Kennedy, Giulia C. 12 Pot, David 13 14 Kassam, Altaf Lamson, George 15 16 Drmanac, Radoje 17 Crkvenjakov, Radomir Dickson, Mark 18 19 Drmanac, Snezana 20 Labat, Ivan 21 Leshkowitz, Dena Kita, David 22 23 Garcia, Veronica 24 Jones, Lee William Stache-Crain, Birgit 25 27 <120> TITLE OF INVENTION: Human Genes and Gene Products 30 <130> FILE REFERENCE: 1624.002 C--> 32 <140> CURRENT APPLICATION NUMBER: US/09/803,719 C--> 32 <141> CURRENT FILING DATE: 2001-03-09 32 <150> PRIOR APPLICATION NUMBER: 60/188,609 33 <151> PRIOR FILING DATE: 2000-03-09 35 <160> NUMBER OF SEQ ID NOS: 2396 37 <170> SOFTWARE: FastSEQ for Windows Version 4.0 39 <210> SEO ID NO: 1 40 <211> LENGTH: 362 41 <212> TYPE: DNA 42 <213> ORGANISM: Homo sapiens 44 <220> FEATURE: 45 <221> NAME/KEY: misc_feature 46 <222> LOCATION: (1)...(362) 47 <223> OTHER INFORMATION: n = A,T,C or G 49 <400> SEQUENCE: 1 50 atggggacgg aggaggaaag aaagacagcc actgggttcc ccgtgttcac acacttggtc 60 120 51 tetttetete tttetgetga etggtetgag ggttageatt tgtateegea aaatggettt 52 tgagtcctca cagacagtgg ctttgagaaa cctgctcttg gtgtccccac atgacctcat 180 53 tggtcaacct tagtgctgct aacagcaaga caagcagata ctgtgtgcat tccgacatga 240 54 ggcagtacaa agtacatagt atcacctagg aactagtett gecaaaagca gaggggggca 300 W--> 55 gggggagaca gagagacaca nagagagaaa cagagaccgt gacagtgaga aatttaacct 360 W--> 56 an 362

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/803,719

58 <210> SEQ ID NO: 2

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04032001\I803719.raw

59 <211> LENGTH: 273 60 <212> TYPE: DNA	
61 <213> ORGANISM: Homo sapiens 63 <400> SEQUENCE: 2	
64 agtaatatga cacatttcaa ttaaaatagt cacatgtctt cccattactc atctctccta	60
65 agccaatgta aaagcttggt ttatattgtt agatacaata ataataaata ggtcttttta	120
66 gtaaatttat gcttaactat ccagcaacat ggtaatggtt atgtggccct taggttttta	180
67 cagattgatt ttgttgttaa gtttcatttt ctctttttta agtgcttttt ttggataact	240
68 gttaatagct acttagttgg gtattaaaga aag	273
70 <210> SEQ ID NO: 3	
71 <211> LENGTH: 380	
72 <212> TYPE: DNA	
73 <213> ORGANISM: Homo sapiens	
75 <400> SEQUENCE: 3 76 tacqqttqcq aqatqacqac aqacqqqcct ggctqatcac ctqcqqccqc ttqattqaqa	60
77 ccaqcctgac cettattttq aaacccqqqc tatactattq ctacatattt aactqttctt	120
78 ggtggcacat gcctgtaata ccatctacta tgcagtggga ggctggataa tcacttgaac	180
79 ctgggaggcg aaggttgtgg tgagccgaga tcgcaccatt gcactccagc ctgggcaaca	240
80 agagcgaaac tacgtctcat aaaaaaaaaa aaaaaaaacaa tgggggcccg ttttttgggt	300
81 attcccacca tgaaaaaaat cattgcaggg gtgggccaac cccactctaa ggtggcgggt	360
82 aaaaaaactt ttttttggtc	380
84 <210> SEQ ID NO: 4	
85 <211> LENGTH: 344	
86 <212> TYPE: DNA	
87 <213> ORGANISM: Homo sapiens	
89 <400> SEQUENCE: 4	
90 aaacactaca tcactgccta ctccaagccc tagctccagt acgggaagtg aaccatgaca	60
91 ggaaatttaa catctacagg aaaagtagaa acacaattct tctaaggttt tatataactc	120
92 caactaaggt catctcttcc ttgccattaa cttcctgaac gcctgtaatc ccagcacttt	180
93 gggaggccga ggcgggcgga tcacgaggtc aggagatcga gaccatcccg gctaaaacgg	240
94 tgaaaccctg tetetactaa aaatacaaaa aactageegg gegtagtgge gggegeetgt	300 344
95 agtcccagct acttgggagg ctgaggcagg agaatggcgt gaat 97 <210> SEQ ID NO: 5	344
98 <211> LENGTH: 317	
99 <212> TYPE: DNA	
100 <213> ORGANISM: Homo sapiens	
102 <400> SEQUENCE: 5	
103 tacqacaqaa cqqcaccatq ttqqccacqc tqqtcttqaa aqcctqaact caqqtqattt	60
104 gcccgcctcg gcctcccaaa acgctgggat taccgccgtg agccaccatg cctggccttg	
105 tocattttag agocagoaag ocaatoacat ttoaaggoot otggtoocot tttgtgaaat	180
106 aaatetetat acagggeacg gtttccacce tetetecage teetageagt teetageac	240
107 gcttctaacc tgctgtaaca gagtgaggat ttccatgtcc ttatgcagtg gatgaatgat	300
108 agggtgagtg agaacct	317
110 <210> SEQ ID NO: 6	
111 <211> LENGTH: 345	
112 <212> TYPE: DNA	
113 <213> ORGANISM: Homo sapiens	
115 <400> SEQUENCE: 6 116 agtgctggag aatcatgtag ttaatcccat tgctcttaca agtgtcagct tacttgtatc	60
110 agractydag aattatytag ttaattottat tyttottata agryttaget taettytate	80

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04032001\1803719.raw

		1.55	120
	117	agceteceta egeaaggace tatgeactgg agcegtagga ggetetteag ttgggcccca	
	118	aggataaggc tactgatttg atactaaatg aatcagcagt ggatgtaggg atagctgatt	180
	119	ttaaaacact cggctgggca cagtggctca cacctgtaat cccagcactt tgggaggctg	240
	120	aggcaggcag atcatgatgt caggagtttg agaccagcct ggccaatatg gtgaaaccct	300
	121	gtctctacaa aaaatacaaa aattagctgg gcatgtgggg cgtgt	345
		<210> SEQ ID NO: 7	
		<211> LENGTH: 359	
		<212> TYPE: DNA	
		<213> ORGANISM: Homo sapiens	
	128	<400> SEQUENCE: 7	60
	129	cactgcaacc tecgeeteec aggtteatge catteteetg ceteageete eegageaget	
	130	gggattcccg gcacccacca ccatgcccag cgacttttt gtatttttag tagagacagg	120
	131	gtttcactgt gttagccagg atgttcttga tctcctgacc tcgtgatcca cccgcctcag	180
	132	cotoccaaag tgttgggatt acaggcgtga gccaccgcgc ccggccgagc agataggtta	240
	133	tcaaagaget gagcaaagat tgtagcagte teacagtaet agggagataa aggtaggaat	300
	124	teaggacttt ceagggtgea eaggetttgg taaatgeete acattateag etgaaaace	359
		<210> SEQ ID NO: 8	
		<211> LENGTH: 398	
		<212> TYPE: DNA	
		<213> ORGANISM: Homo sapiens	
		<220> FEATURE:	
		<221> NAME/KEY: misc_feature	
	143	<222> LOCATION: (1)(398)	
	144	<223> OTHER INFORMATION: $n = A, T, C$ or G	
	146	<400> SEQUENCE: 8	
	147	tgagtetcaa acteetggge teaagtgatt eteceaeete ageeteecaa gtagetggga	60
W>	148	ctagaggcat gtaccaccac gcctgcctaa tttttttgta tttttagtag agatggggnt	120
W>	149	thaccatatt ggccaggctg atcttgaact cctgtcctcg ggtgaactat ctggcatggt	180
" ,	150	ctagttatgt gacgtgcaca catacttctt tttgtatgaa ttcttcagca gaaatggggg	240
	151	tacttgggct gtgcgccccc cgctcctctt tataatgtct tgtatttaga aggaaggggc	300
	152	tgcgttggcc tcttcgaaat gtcgcgggta taaattcgct gaggagtgct tgtgaccacc	360
	152	cttctaacga ttcttctacg tgtgtagctc tccagctc	398
		<210> SEQ ID NO: 9	
		<211> LENGTH: 382	
		<212> TYPE: DNA	
		<213> ORGANISM: Homo sapiens	
	160	<400> SEQUENCE: 9	60
	161	agaggaggag aatcgggagc acaagaagga ggaggagatg aagaggtgaa ggagaggagg	120
	162	aggaaaggag aagagaagga ggaggagaaa agaaaggagt ggagaaagag gagaggagga	
	163	gaaaaaatag gaaacgaaga ggagaagaat aggaggagga aaaggatggg agaaaagaaa	180
	164	aaggaaaagt aggaggagta gaaaaagagg agaaggagga agaagaaaga	240
	165	acgaaaagaa tgagaaaaag aggagaggag aatgaggaga aggcgtataa gataagaacg	300
	166	aggagaggat taagaaggag aagtagagga ggaggagaga agaggaaagg aggaggaaag	360
		gagaatacaa ggaggaagag aa	382
		<210> SEQ ID NO: 10	
		<211> LENGTH: 326	
		<211> LENGIR. 320 <212> TYPE: DNA	
		<213> ORGANISM: Homo sapiens	
	1/4	<400> SEQUENCE: 10	

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04032001\I803719.raw

	175	ccaaccagat gttgactgtc atcactggga ctcaactggg aaaccctctt tttcctccaa	60
	176	atttgctgct ctaggtgcta agggtctgta ggacagagct ttgggactgt tagaattcta	120
	177	tcagaaaaaa acqagacaga aggctataag catgagtgtg ggcagggtgc tgtggttcac	180
	178	ttctgtaatc ccaqcacttt qqqaqqccaa ggtaggagaa tcccttgaag ccaggaattc	240
	179	aagaccaccc tgggcaatat agcaaaacca tgattctaca aaaaattaaa aagttatctg	300
		agtgtggtgg cacacacctg tagtcc	326
		<210> SEQ ID NO: 11	
	183	<211> LENGTH: 286	
	184	<212> TYPE: DNA	
	185	<213> ORGANISM: Homo sapiens	
	187	<220> FEATURE:	
	188	<221> NAME/KEY: misc_feature	
		<222> LOCATION: (1)(286)	
	190	<223> OTHER INFORMATION: $n = A,T,C$ or G	
	192	<400> SEQUENCE: 11	60
	193	gaagaaggtg gggaggaaga ggaggaggaa gaagaaggtg atggtgagga agatgatgga	60
	194	catgactatg cggaatctgg atcagctatg tgtaatcggg ctgctgaata ttattaggat	120
M>	195	gacgagtgtg atacctacaa gcttatnact tgggaggctt gctcttgtag tatcgcttgt	180
	196	atcttttgga ggttgtagac tatatgttct ctgttttcct tttttctctt tctttttta	240
		atgaaaaaaa aggacctctc ggtttatttt gtgtggttat ttatcg	286
		<210> SEQ ID NO: 12	
		<211> LENGTH: 325	
		<212> TYPE: DNA	
		<213> ORGANISM: Homo sapiens	
		<pre><400> SEQUENCE: 12 geggtctggg ctcactgcaa gctgcacctg ctgatgtcaa gcaactctac agcctcatgc</pre>	60
	205	toccaagtag ctgggattac agcagogoac cattatacot ggotaattgt tgaataatta	120
	200	gaacgggagg agatttgcta taggaaagtc ctaaaaataaa ggaaaagtga tgagccctaa	180
	207	taaacaagta gtgtttttga ctcagcattg aaaaaaatga atgagctatg accaggagat	240
	200	ctaagtttct tttggtggct aacatgcaca aaagttatct gttcaataag ggtagtattg	300
		atggtccata tctcatatta actag	325
		<210> SEQ ID NO: 13	
		<211> LENGTH: 320	
		<212> TYPE: DNA	
	215	<213> ORGANISM: Homo sapiens	
	217	<400> SEQUENCE: 13	
	218	agectectga gtagetggga etataggege eegecaceae acceggetaa tttttttgta	60
	219	tttttagtag agacggcgtt tcaccgtgtt agccaggatg gccttgatct cctgacctcg	120
	220	tgattcggct gccttggcct cccaaagtgc tgtgattacc agcgtgagcc gccgtgcccg	180
	221	gccactagcg gcatttaatt aaagagatet tggcgccgtc tetegtatac tattgcetet	240
	222	aaccttgcgc gtgaccctgc ctgatcctta gtctgcttat tggaataacg gggatgtcct	300
		tgctttcaca aggtttgatc	320
		<210> SEQ ID NO: 14	
		<211> LENGTH: 353	
		<212> TYPE: DNA	
		<213> ORGANISM: Homo sapiens	
		<400> SEQUENCE: 14	60
	231	cgggcctggc ggatcacctg cggcagttag tttgagacca gcctgaccct ttttttgaaa	120
	232	cccgggctat actatagata caaaagtagc tggtcgtggc ggcacatgcc tgtattacca	120

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04032001\1803719.raw

	233	tctactatgg agggagaggc tggataatca cttgaacctg gtaggcgaag gttgtggtga	180
	234	gccgagatcg caccattgca ctccagcctg ggcaacaaga gcgaaactac gtctcacaaa	240
		aaaaaaaaaa aaaatctttg gggccggttt ttaaatgaac tcgacatgga agcacacact	300
		tgtaggettg ggcacacece aaagettgag eggegggaaa aaattgtttt ttg	353
		<210> SEQ ID NO: 15	
		<211> LENGTH: 349	
		<212> TYPE: DNA	
	241	<213> ORGANISM: Homo sapiens	
		<400> SEQUENCE: 15	
	244	gaatccagat ggcaagaatt gtctttgcta cccctacatc tacggtttac tttgatgagc	60
	245	aattggcttc attatttggg ccaccacttt tatatacata ctgggtttga gggcagcaac	120
	246	cagcattett ggetaagata aatgaggetg ggeacagtag ettatgeetg taateeeagg	180
	247	actttgggag gcctaggtgg gaggatcact tgagcttagg agttctagac tagcctaggc	240
	248	aacatagcaa gaccctaact ctaaaacaat ttttttttt ttttttgga gaagagtttc	300
	249	acttttttgg cccaagetga gagggaeget gccaeeegga ggatteetg	349
		<210> SEQ ID NO: 16	
	252	<211> LENGTH: 405	
	253	<212> TYPE: DNA	
	254	<213> ORGANISM: Homo sapiens	
		<220> FEATURE:	
		<221> NAME/KEY: misc_feature	
	258	<222> LOCATION: (1)(405)	
		<223> OTHER INFORMATION: $n = A, T, C$ or G	
		<400> SEQUENCE: 16	
	262	cgttgctgtc ggtcaaaact gtctttaaaa atcctaccca tccctttaag ttcagttgaa	60
	263	aattacctct tatataaagc ttctgctaat ccctccattt cccagcccca gaggggactg	120
	264	tttttccaa aggggacttt tttctgaacc cccataatgt tttatgctc ttatatggag	180
	265	tttatataat tttgcattgt attggaatca tttaggtaat tgtcttatct tcattgctag	240
	266	agtgtaagct ctttaaggta aagacagtgt tattcagtta attatctccc caaataccta	300
W>	267	ntatagcatc ttaggcctat ctagtagata ctcaaaaaat atatatccta ataaatgtga	360
	268	ttaagctatc acatttagtg cctatggtag gcactaaatc aaggt	405
		<210> SEQ ID NO: 17	
		<211> LENGTH: 307	
	272	<212> TYPE: DNA	
	273	<213> ORGANISM: Homo sapiens	
		<400> SEQUENCE: 17	
	276	gcagtggcat gatctcagct cactgcaacc tccgcctccc aggttcatgc cattctcctg	60
	277	cctcagcctt ccgagtagct gggactacag gctcccgaca ccatqcccag ctaattctct	120
	278	ggattgatag tatagacggg tttttattgt ttttttccac atttttcttt ttagtattgc	180
	279	ctatatttcc tcggcatctt gtacctaata gtgtgcgttt aaaaaattqc ctgqcaacat	240
	280	atatacgett ttttattttt atgacttgaa taaaaaaagg tgggacteec aatttgttet	300
	281	cgcacct	307
	283	<210> SEQ ID NO: 18	
		<211> LENGTH: 138	
		<212> TYPE: DNA	
	286	<213> ORGANISM: Homo sapiens	
		<400> SEQUENCE: 18	
	289	acagttttaa acaacaggaa gtcttcattc ccttcctggg tgtctttggt catctgggcc	60
	290	ctgatggtgg agccatgcca gatagaggga ttatgatgct taaatctagt aggattactg	120
		•	

FJI

Please Note:

Use of n and/or Xaa hav been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a c rresp nding explanation is presented in the <220> to <223> fields f each sequence which presents at least ne n r Xaa.

VERIFICATION SUMMARY DATE: 04/03/2001 PATENT APPLICATION: US/09/803,719 TIME: 20:20:03

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04032001\1803719.raw

```
L:32 M:270 C: Current Application Number differs, Replaced Current Application No
 L:32 M:271 C: Current Filing Date differs, Replaced Current Filing Date
 L:55 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
 L:56 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
 L:148 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
 L:149 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
 L:195 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 L:267 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 L:320 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 L:349 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 L:439 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 L:467 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 L:557 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
 L:557 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37
 L:573 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38
 L:608 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40
 L:650 \text{ M}:341 \text{ W}: \text{ (46) "n" or "Xaa" used, for SEQ ID$#:43}
 L:683 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45
 L\!:\!701 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46
 L:758 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50
 L:783\ M:341\ W: (46) "n" or "Xaa" used, for SEQ ID#:52
L:812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:886 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59
L:953 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:64
L:1053 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72
L:1189 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82
L:1217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84
 L\!:\!1219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84
L\!:\!1237 M\!:\!341 W: (46) "n" or "Xaa" used, for SEQ ID#:85
 L:1251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86
 L:1273 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:87
L:1334 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:91
L:1487 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:102
L:1500 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:102
L:1500 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:103
L:1507 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:103
L:1537 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:105
L:1556 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:106
L:1572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:107
L:1588 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:108
L:1639 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:108
L:1639 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:111
L:1701 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:115
L:1719 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:116
L:1736 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:117
L:1814 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:122
L:1833 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:123
L:1934 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:130
L:1935 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:130
L:1936 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:130
L:1952 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:131
```

VERIFICATION SUMMARY DATE: 04/03/2001 PATENT APPLICATION: US/09/803,719 TIME: 20:20:03

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04032001\I803719.raw

L:1971 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:132 L:2071 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:139 L:2104 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:141 L:2191 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:147